

"Seeburg"), and World Wide Distributors, Inc. (hereinafter "World Wide"), as the defendant in Civil Action No. 75 C 3153, Sears, Roebuck & Co., and as the plaintiff in Civil Action No. 75 C 3933, Atari, Inc. (hereinafter "Atari"). CDI, Seeburg, and World Wide will sometimes hereinafter be referred to as "defendants".

2. These actions are for infringement of four United States Letters Patent 3,659,284, 3,659,285, Re. 28,507, and Re. 28,598. CDI, The Seeburg Corporation of Delaware, and World Wide each filed a counterclaim seeking a declaratory judgment that those same four United States Letters Patent are invalid and not infringed by them. The pleadings of the defendants include averments of patent misuse and violation of the Antitrust laws; by an Order dated February 9, 1976, discovery and trial on the patent misuse and antitrust allegations were stayed until after trial on the issues of patent validity and infringement. Civil Actions No. 75 C 3153 and 75 C 3933 involved the infringement and validity of the same four United States Letters Patent and Civil Action No. 75 C 3153 additionally involved the infringement and validity of United States Letters Patent 3,728,480.

3. On May 17, 1976, the parties having compromised their differences, the Court dismissed Civil

Action No. 74 C 1030 as to Bally Manufacturing Corporation, Midway Mfg. Co., and Empire Distributing, Inc. and entered an order on the consent of Midway Mfg. Co. stating that United States Letters Patent 3,659,284, 3,659,285, Re. 28,507, and Re. 28,598 are valid and were infringed by it.

4. On June 9, 1976, the parties having compromised their differences, the Court dismissed Civil Actions No. 75 C 3153 and 75 C 3933 and entered an order on the consent of Atari stating that United States Letters Patent 3,659,284, 3,659,285, Re. 28,507, and Re. 28,598 are valid and were infringed by it. The order stated that it applied to plaintiffs and Atari only and does not affect the rights of any other persons or business entities.

5. Magnavox is a corporation of the State of Delaware having its principal place of business in Fort Wayne, Indiana.

6. Sanders is a corporation of the State of Delaware having its principal place of business in Nashua, New Hampshire.

7. CDI is a corporation of the State of Illinois having its principal place of business in Chicago, Illinois.

8. Seeburg Industries, Inc. is a corporation of the State of Delaware having its principal place of business in New York, New York.

9. The Seeburg Corporation of Delaware is a

corporation of the State of Delaware having its principal place of business in Chicago, Illinois.

10. Williams Electronics, Inc. is a corporation of the State of Delaware having its principal place of business in Chicago, Illinois.

11. World Wide is a corporation of the State of Illinois having its principal place of business in Chicago, Illinois.

12. This Court has jurisdiction over each of the remaining parties to these actions.

13. United States Letters Patent 3,659,284 (hereinafter '284) issued to Sanders as assignee of the inventor shown thereon, William T. Rusch, on April 25, 1972 from application Serial No. 828,154 filed in the United States Patent and Trademark Office on May 27, 1969. An application for reissue of the '284 patent was filed in the United States Patent and Trademark Office on April 25, 1974, which application issued to Sanders as United States Letters Patent Re. 28,507 (hereinafter '507) on August 5, 1975. Hereinafter, references to the '507 patent should be considered as referring to both the '284 and '507 patents unless stated to the contrary.

14. United States Letters Patent 3,659,285 (hereinafter '285) issued to Sanders as assignee of the inventors shown thereon, Ralph H. Baer, William T. Rusch, and William L. Harrison, on April 25, 1972 from an

application Serial No. 857,865 filed in the United States Patent and Trademark Office on August 21, 1969. An application for reissue of the '285 patent was filed in the United States Patent and Trademark Office on April 25, 1974, which application issued to Sanders as United States Letters Patent Re. 28,598 (hereinafter '598) on October 28, 1975. Hereinafter, references to the '598 patent should be considered as referring to both the '285 and '598 patents unless stated to the contrary.

15. Sanders is and has been the owner by assignment of each of the '507 and '598 patents since the respective issue dates thereof. Sanders was the owner by assignment of each of the '284 and '285 patents from the date of issue thereof until the date of issue of the corresponding reissue patent. Magnavox is and has been the exclusive licensee under each of the '507 and '598 patents since the respective issue dates thereof. Magnavox was the exclusive licensee under each of the '284 and '285 patents from the date of issue thereof until the date of issue of the corresponding reissue patents.

16. Defendants CDI and Seeburg have manufactured coin-operated video games.

17A. Defendants Seeburg and World Wide have sold coin-operated video games manufactured by others.

17B. Defendants Seeburg and World Wide are selling coin-operated video games manufactured by others.

17C. Defendant World Wide has leased and now leases coin-operated video games manufactured by others.

18. Defendant CDI has since the issue of the '284 and '285 patents manufactured and sold the following coin-operated video games:

TV Ping Pong (Model 424)

TV Tennis (Model 427)

Olympic TV Hockey (Model 429)

Olympic TV Football (Model 429-A)

TV Goalee (Model 434)

TV Pingame (Model 451)

Super Flipper

19. The coin-operated video games manufactured and sold by CDI are accurately described in plaintiffs' exhibits 35A-E, 36A-D, 37A & B, 38A & B, 39A & B, and 40A & B.

20. Defendant Seeburg has since the issue of the '284 and '285 patents manufactured, or has had manufactured for it, and sold the following coin-operated video games:

Paddle Ball

Pro Hockey

Pro Tennis

Olympic Tennis

21. The coin-operated video games manufactured and sold by Seeburg are accurately described in plaintiffs' exhibits 41A-D, 42A-C, 43A-D, and 44A & B. Plaintiffs' exhibit 43E is a Seeburg "Pro Tennis" game.

24. Defendant Seeburg has since the issue of the '284 and '285 patents sold the following coin-operated video games in addition to the games listed in paragraph 20 hereof, the manufacturer of each game also being indicated:

<u>GAME</u>	<u>MANUFACTURER</u>
Olympic TV Hockey	CDI
Tennis Tourney	Allied Leisure Industries, Inc. Hialeah, Florida
Volley	Ramtek Corporation Sunnyvale, California
Hockey	Ramtek Corporation Sunnyvale, California
Sportarama	United Games, Inc. Union, New Jersey
TV Hockey	Amutronics, Inc. Cherry Hill, New Jersey
Wham Bam	PMC Electronics Co., Inc. Philadelphia, Pennsylvania

25. The coin-operated video games sold by Seeburg are accurately described in plaintiffs' exhibits 37A & B, 45A & B, 47A & B, and 48A & B.

25A. Plaintiffs' exhibits 51, 52, and 53 are accurate with respect to the games Sportarama, TV Hockey, and Wham Bam sold by Seeburg.

26. Defendant World Wide has since the issue of the '284 and '285 patents sold and/or leased the following coin-operated video games, the manufacturer of each game also being indicated:

<u>GAME</u>	<u>MANUFACTURER</u>
Pro Tennis	Seeburg
Pro Hockey	Seeburg
Paddle Ball	Seeburg
TV Tennis	CDI
Space Ball	Nutting Associates, Inc. Mountain View, California
Tennis Tourney	Allied Leisure Industries, Inc. Hialeah, Florida
Volley	Ramtek Corporation Sunnyvale, California
Soccer	Ramtek Corporation Sunnyvale, California
Hockey	Ramtek Corporation Sunnyvale, California
Sportarama	United Games, Inc. Union, New Jersey
Astro Hockey	Brunswick Corporation Skokie, Illinois

27. The coin-operated video games sold and/or leased by World Wide are accurately described in plaintiffs' exhibits 43A-D, 42A-C, 41A-C, 36A-D, 50A-B, 45A & B, 47A & B, 49A-D, 48A-C, and 54A-C.

27A. Plaintiffs' exhibit 51 is accurate with respect to the game Sportarama sold and/or leased by World Wide.

28. For the purposes of this action, plaintiffs contend the games listed in paragraphs 18, 20, 22, 24, and 26 hereof may be placed in the following five groups, groups A-E:

GROUP A

~~Pong~~

✓

Paddle Ball

TV Ping Pong

Wham Bam

Defendants dispute inclusion

Seeburg

GROUP B

TV Tennis

✓

Pro Tennis

Space Ball

Olympic TV Football

Pro Hockey

Olympic Tennis

Volley

Sportarama

Olympic TV Hockey

Tennis Tourney

Soccer

Hockey

TV Hockey

Astro Hockey

GROUP C

TV Goalee

GROUP D

TV Pingame

GROUP E

Super Flipper

29. Each game listed in the groups of paragraph 28 hereof is alleged by plaintiffs to infringe each claim of the patents in suit as specified below, the list of claims of the reissue patents being considered as including the claims listed for the corresponding original patents:

<u>GROUP</u>	<u>CLAIMS OF</u> <u>3,659,284</u>	<u>CLAIMS OF</u> <u>3,659,285</u>	<u>CLAIMS OF</u> <u>Re. 28,507</u>	<u>CLAIMS OF</u> <u>Re. 28,598</u>
A	25, 28, 29, 31, 32, 44, 45, 51, 54, 55, 57	1, 5	60, 61, 62, 63, 64	--
B	25, 28, 29, 31, 32, 44, 45, 51, 54, 55, 57	1, 2, 5, 6	60, 61, 62, 63, 64	13, 14, 15, 16
C	25, 26, 28, 32, 45, 51, 52, 54	1, 2, 5, 6	60, 61, 63, 64	13, 14, 15

<u>GROUP</u>	<u>CLAIMS OF</u> <u>3,659,284</u>	<u>CLAIMS OF</u> <u>3,659,285</u>	<u>CLAIMS OF</u> <u>Re. 28,507</u>	<u>CLAIMS OF</u> <u>Re. 28,598</u>
D	25, 28, 29, 31, 32, 51, 54, 55, 57	2, 6	60	13, 14
E	25, 28, 29, 31, 32, 44, 45, 51, 54, 55, 57	1, 2, 5, 6	60, 61, 63, 64	13, 14, 15

30. The subjects matter of each of the patents in suit resulted from work done at Sanders by a research group which first included Ralph H. Baer and at least as early as May, 1967 also included William L. Harrison and William T. Rusch.

33. Magnavox has manufactured and sold in the United States video games under the trademark "ODYSSEY". The video games ODYSSEY are video game apparatus intended for use with broadcast television receivers.

34. The first model of the video game ODYSSEY commercially used by Magnavox was the Model 1TL 200; the Model 1TL 200 ODYSSEY video game was first placed on sale by Magnavox in April 1972.

36. The Magnavox Model YF 7010 ODYSSEY 100 and Model YF 7015 ODYSSEY 200 video games were first offered for sale in the Spring of 1975 and shipment of the ODYSSEY 100 commenced on October 30, 1975, and shipment of the ODYSSEY 200 commenced on November 12, 1975.

38. Magnavox has sold at least 800,000 ODYSSEY video games from August 1972 through September 1976.

39. Magnavox's wholesale dollar sales of ODYSSEY video games from August 1972 through September 1976 was at least \$45,000,000.00

43. Plaintiffs' Exhibit 92A is a true copy of an agreement between Magnavox and Midway Mfg. Co., a former defendant in Civil Action No. 74 C 1030.

44. Plaintiffs' Exhibit 92B is a true copy of a sublicense Magnavox has granted to Coleco Industries, Inc.

45. Plaintiffs' Exhibit 92C is a true copy of a sublicense Magnavox has granted to Centronics Data Computer Corporation.

46. Plaintiffs' Exhibit 92D is a true copy of an agreement between Magnavox and Atari, Inc., a former party.

47. The Magnavox video game ODYSSEY Model 1TL 200 was nationally publicized during the months of April and May 1972.

48. The Magnavox video games ODYSSEY include apparatus for simulating the playing of the game table tennis (ping pong).

49. In the Magnavox video game ODYSSEY, the display shown on the television picture tube screen includes a white rectangular symbol on the right side of the screen

representing one player, a white rectangular symbol on the left side of the screen representing a second player, and a white rectangular symbol representing a ball which moves across the screen and appears to bounce off the player symbols when it is coincident with one of the player symbols. The positions of the player symbols on the screen may be manipulated by the participants in the game to intercept the ball and return it to the other player.

50. The Magnavox video game ODYSSEY Model 1TL 200 was reported in an article appearing in the Wall Street Journal dated May 11, 1972. (Plaintiffs' Ex. 7B)

51. The Magnavox video game ODYSSEY Model 1TL 200 was reported in an article appearing in the trade publication Television Digest dated May 15, 1972. (Plaintiffs' Ex. 7C)

52. The Magnavox video game ODYSSEY Model 1TL 200 was reported in an article appearing in Time magazine dated May 22, 1972. (Plaintiffs' Ex. 7D)

53. The Magnavox video game ODYSSEY Model 1TL 200 was nationally demonstrated to Magnavox dealers, distributors, and sales personnel, and other persons at shows around the country during May 1972. The first such show began on May 3, 1972 in Phoenix, Arizona. One such show occurred on May 23-25, 1972 in Burlingame, California.

79. In each of the video games Pong, Paddle Ball, TV Ping Pong, and Wham Bam, the display shown on the picture tube screen includes among other things one white rectangular symbol on the right side of the screen representing one player, one white rectangular symbol on the left side of the screen representing a second player, and a white rectangular symbol representing a ball which moves across the screen and appears to bounce off the player symbols when it is coincident with one of the player symbols. The vertical positions of the player symbols on the screen, and no others, may be manipulated by the participants in the game to intercept the ball and return it to the other player.

80. In each of the video games TV Tennis, Pro Tennis, Space Ball, Olympic TV Football, Pro Hockey, Olympic Tennis, Volley, Sportarama, Olympic TV Hockey, Tennis Tourney, Soccer, Hockey, TV Hockey, and Astro Hockey the display shown on the picture tube screen includes, among other things, one white rectangular symbol on the right side of the screen representing one player, one white rectangular symbol on the left side of the screen representing a second player, and a white rectangular symbol representing a ball which moves across the screen and appears to bounce off the player symbols when it is coincident with one of the player symbols. The vertical positions of the player symbols on the screen, and no others, may be manipulated by the participants in the game to

intercept the ball and return it to the other player. The display shown on the picture tube screen additionally includes fixed lines representing, for example, court lines or boundary lines. When the ball is coincident with one of the fixed lines, it appears to bounce off the line.

81. In the video game TV Goalee of paragraph 28 hereof, the display shown on the picture tube screen includes among other things a white rectangular symbol on the right side of the screen representing one player, a white rectangular symbol on the left side of the screen representing a second player, and a white rectangular symbol representing a ball which moves across the screen and appears to bounce off the player symbols when it is coincident with one of the player symbols. The positions of the player symbols on the screen may be manipulated by the participants in the game to intercept the ball and return it to the other player. The positions of the players may be manipulated in both the horizontal and vertical directions. The display shown on the picture tube screen additionally includes fixed lines representing boundary lines. When the ball is coincident with one of the fixed lines, its motion is altered and the ball appears to move away from the line.

82. In the video games TV Pingame and Super Flipper, the display on the picture tube screen includes among other things a symbol on the screen representing a ball and at least one symbol on the screen representing a flipper or paddle. The position of the flipper or paddle may be manipulated by the

participant in the game to intercept the ball and alter the motion of the ball. The display shown on the picture tube screen additionally includes at least one symbol which is fixed. When the ball is coincident with one of the fixed symbols, its motion is altered and it appears to bounce off the fixed symbol.

83. During production of the video games listed in paragraph 18 hereof, CDI used portions of television receivers originally intended for the reception of broadcast television signals but modified by disabling the radio frequency and intermediate frequency portions thereof so that they were no longer operable to receive broadcast television signals.

83A. Later during production of the video games listed in paragraph 18 hereof, CDI used television monitors which could not be used for the reception of broadcast television signals.

84. During some production of the video games listed in paragraph 20 hereof, Seeburg used portions of television receivers originally intended for the reception of broadcast television signals but modified by disabling the radio frequency and intermediate frequency portions thereof so that they were no longer operable to receive broadcast television signals.

84A. During other production of the video games listed in paragraph 20 hereof, Seeburg used television monitors which could not be used for the reception of broadcast of television signals.

85. All of the video games manufactured, leased

and/or sold by the defendants included display apparatus for utilizing a television signal format including horizontal synchronization signals, vertical synchronization signals, and video signals.

86. All of the video games manufactured, leased and/or sold by the defendants included cathode ray tube display apparatus using a raster scan.

87. All of the video games manufactured, leased and/or sold by the defendants included circuitry for generating horizontal and vertical synchronization signals for generating a raster on the face of a picture tube screen.

88. All of the video games manufactured, leased and/or sold by the defendants included circuitry for generating horizontal and vertical synchronization signals for generating a raster on the face of a picture tube screen and circuitry connected to the synchronization signal generating circuitry for generating the symbols referred to in paragraphs 79-82 hereof on the screen of the picture tube.

89. Plaintiffs contend that claims 25, 45, 51, and 61 of Re. 28,507 and claims 2, 6, and 15 of Re. 28,598 may be taken as representative claims for the purpose of trying the validity and infringement aspects of this action. It is the understanding of the plaintiffs that the issues as to the remaining claims listed in paragraph 29 hereof are substantially identical to those concerning the representative claims. If during the further conduct of this action it becomes apparent that this understanding is incorrect as to any claim

or claims, plaintiffs may designate that additional claim or claims as additional representative claims.

90. Plaintiffs contend that the Seeburg games Paddle Ball and Pro Tennis may be taken as representative games for the purpose of trying the validity and infringement aspects of this action. It is the understanding of the plaintiffs that the issues as to the remaining games listed in paragraphs 18, 20, 24, and 26 hereof are substantially identical to those concerning the representative games. If during the further conduct of this action it becomes apparent to plaintiffs that this understanding is incorrect as to any game or games, plaintiffs may designate that additional game or games as additional representative games.

91. The annual meeting of the Association for Computing Machinery was held at the University of Michigan in Ann Arbor, Michigan on Wednesday through Friday, June 23 through 25, 1954.

92. Over 700 members and nonmembers of the Association attended the sessions of that annual meeting on the University campus in Ann Arbor.

93. In conjunction with the annual meeting, demonstrations of the MIDAC computer, the MIDSAC computer, and the University of Michigan Willow Run Research Center's analog computing facility were held on Saturday, June 26, 1954, at the University of Michigan Willow Run Research Center at Ypsilanti, Michigan with a total of approximately 250

persons attending the demonstrations.

94. To illustrate the capabilities of the MIDSAC computer a demonstration was prepared which was intended to simulate the game of pool.

95. The pool game demonstrated displayed 16 balls on a 13-inch cathode ray tube. The play of the game is described on page 26 of the article Computers and Automation, Volume 3, No. 7, September 1954.

96. Brown Deposition Exhibit 1 is a description of the MIDSAC computer as it existed some time prior to the June 1954 demonstration.

97. Some persons attending the annual meeting of the Association for Computing Machinery also attended the demonstration of the computer pool game at the Willow Run Research Center.

98. The pool game demonstrated at the Willow Run Research Center displayed a cue, a cue ball and 15 pool balls.

99. The sides of the pool table were not electronically displayed but were manually drawn using a grease pencil.

100. When there was apparent coincidence between the cue ball and one of the pool balls, the pool ball and the cue ball would move away from each other.

101. When there was coincidence between any one of the balls and the manually drawn side of the pool table, if the side was accurately drawn the ball would appear to bounce off the side of the pool table.

102. When the ball appeared to bounce off the side of the pool table the angle of reflection was equal to the angle of incidence.

103. When the pool game demonstrated was played an individual participant could determine the direction of travel of the cue ball by manipulating the angular orientation of the cue. The position of the cue could be manipulated but had no effect on the direction of travel of the cue ball.

104. The apparatus demonstrated included means for ascertaining apparent coincidence between a moving ball and another ball or the side of the pool table and for imparting motion to the moving ball upon coincidence.

105. The apparatus demonstrated included means for generating the ball symbols and displaying them on the screen of a cathode ray tube.

107. The MIDSAC computer was a stored program, special purpose computer developed for a specific purpose.

108. The MIDSAC computer never fulfilled the specific military purpose for which it was developed.

109. The MIDSAC computer was not a commercially available computer.

110. There was only one MIDSAC computer ever built, the one at the Willow Run Research Center.

111. The program used on the MIDSAC computer to generate the pool demonstration could not be used on any other computer without rewriting it.

116. The cathode ray tube display used with the MIDSAC computer to generate the Willow Run Research Center pool demonstration was not a raster scan display.

117. The display apparatus as used with the MIDSAC computer to generate the Willow Run Research Center pool demonstration did not use circuitry for generating horizontal or vertical sweep signals to generate a raster on the screen of the cathode ray tube.

118. The MIDSAC computer and the display apparatus used to generate the Willow Run Research Center pool demonstration was a point-to-point or X-Y display.

119. The display apparatus used with the MIDSAC computer to generate the Willow Run Research Center pool demonstration could not have displayed a video image in response to a signal in the television format including horizontal synchronization signals, vertical synchronization signals, and video signals representing those images.

120. In the Willow Run Research Center pool demonstration the realism of the pool simulation was limited

by the capabilities of the MIDSAC computer.

121. In the Willow Run Research Center pool demonstration, during the simulation of the break the speed of the balls appeared to either increase or decrease depending on the time required for the computer to make the necessary computations.

121A. In the Willow Run Research pool demonstration the apparent speed of the balls depended on the number of collisions the computer was required to handle and when there were 16 balls displayed the balls appeared to travel at less than a speed one would expect compared to other times in the demonstration. This was because the computer had limited capacity and could not handle the calculations fast enough to keep up with the collisions. However, as balls disappeared from the simulated pool table in the course of play the speed of the balls increased.

122. On September 28 and 29 for invited guests and September 30 and October 1, 1967 for invited members of the public, the RCA Laboratories conducted an open house at its David Sarnoff Research Center in Princeton, New Jersey. At that open house the RCA Spectra 70/25 computer with an IDI vector display system was demonstrated using a pool game simulation and a remote Digital Equipment Corporation computer was demonstrated with a Tektronix Storage Oscilloscope using a maze game.

123. The pool game demonstrated at the RCA Laboratories as set out in paragraph 122 utilized an RCA Spectra 70/25 computer, a commercially available computer which was in use in the RCA Laboratories in connection with ongoing research and development activities of that laboratory.

124. The RCA Spectra 70/25 computer used in the RCA Laboratories pool demonstration cost at least approximately \$90,000 in 1967.

125. The RCA Spectra 70/25 computer was a stored program, general purpose computer.

126. The IDI display used in the RCA Laboratories pool demonstration was purchased by RCA for use in connection with its research and development activities and was not acquired by that company solely for the purpose of demonstrating a pool game.

127. The IDI display used in the RCA Laboratories pool demonstration cost at least approximately \$50,000 in 1967.

128. In the RCA Laboratories pool demonstration 15 pool balls, each with a different number thereon, thirty-two points representing a cue ball, and straight lines representing the sides and pockets of a pool table were displayed. However, no cue stick and no other operator manipulated symbol was displayed.

129. The RCA Laboratories pool demonstration used existing custom built hardware designed and built at the RCA Laboratory for the purpose of their research and development

activities to interface the IDI display to the Spectra 70/25 computer, and no special apparatus was built for the purposes of the pool game demonstration.

130. An RCA Spectra 70/25 computer and an IDI display could not be used to generate a pool demonstration as it was demonstrated at RCA Laboratories without hardware to interface them.

131A. The RCA Laboratories pool demonstration was carried out by RCA employees who spent more than 120 man-days writing the demonstration program and who were in attendance at times during the demonstration; they provided explanations to attendees of the demonstration and answered both general and technical questions from some of the attendees.

131B. Approximately 8,000 people attended the RCA Laboratories open house referred to in paragraph 122 hereof on September 30 and October 1, 1967.

131C. Invitations to attend the open house on September 28 and 29 were extended to officials of organizations in direct competition with RCA Corporation in the development and manufacture of television receivers and other products.

131D. Attendees at the RCA open house on September 30 and October 1 were individuals who were invited by employees of the RCA Laboratory without any restriction being imposed on those employees as to who could be invited.

131E. No restrictions with respect to confidentiality or proprietary information were imposed

upon the attendees at the RCA Laboratories open house. All attendees were required to provide RCA with their names and addresses and attendees were permitted to take photographs only by special permit and only at selected locations.

132. The IDI display used at the RCA pool demonstration was not a raster scan display.

133. The IDI display used at the RCA Laboratories pool demonstration did not include circuitry for generating horizontal and vertical sweep signals used to generate a raster on the screen of the cathode ray tube.

134. The RCA Spectra 70/25, the IDI display, and the other apparatus used to generate the RCA Laboratories pool demonstration did not include any apparatus for generating symbols displayed on the screen that was connected to an apparatus for generating horizontal and vertical synchronization signals.

135. The IDI display used at the RCA Laboratories pool demonstration could not have displayed a video image in response to a signal in the television format including horizontal synchronization signals, vertical synchronization signals, and video signals representing that image.

136. In the RCA Laboratories pool demonstration, the accuracy of the pool simulation was limited by the capabilities of the RCA Spectra 70/25 computer.

136A. In the RCA Laboratories pool demonstration the computer maintained a record in the computer memory of the location of each ball and wall symbol and periodically compared them. When the comparison showed a coincidence the computer

calculated and stored new information on the location of the balls based thereon which was displayed on the cathode ray tube.

136B. In the RCA Laboratories pool demonstration when a ball being displayed had apparent coincidence with a side wall being displayed, the ball would appear to move away from the side wall with a reflection angle equal to the incident angle at which the ball approached the side wall.

137. In the RCA Laboratories pool demonstration, during the simulation of the break the speed of the balls appeared to either increase or decrease depending on the time required for the computer to make the necessary computations.

137B. The maze game demonstrated at the RCA Laboratories open house referred to in paragraph 122 hereof used a shared time computer with its output connected to a storage oscilloscope having a cathode ray tube.

137C. The maze game referred to in paragraphs 122 and 137B hereof included means permitting a player to generate a continuous static line of increasing length representing a path on the face of the cathode ray tube of the storage oscilloscope by moving either horizontally or vertically.

138. In 1966 and 1967 work was being carried on at the David Sarnoff Research Center relating to computer displays.

139. In 1966 and 1967 work was being carried on at the David Sarnoff Research Center relating to television displays.

140. In 1967 an investigation was performed at the David Sarnoff Research Center of in-home uses for computers with displays.

141. The investigation referred to in paragraph 140 hereof was conducted by the two individuals primarily concerned with the development of the RCA Laboratories pool demonstration.

142. The investigation referred to in paragraph 140 hereof resulted in the preparation of a twenty-two page written report (RCA deposition exhibit 11).

144. The written report referred to in paragraph 142 hereof discussed the subject of using a computer to play games.

146. In June of 1967 R. H. Baer demonstrated to officers and employees of Sanders Associates an operable TV gaming apparatus which performed satisfactorily for its intended purpose.

148. As demonstrated in June 1967 the TV gaming apparatus referred to in paragraph 146 hereof was coupled to a broadcast television receiver.

149. As demonstrated in June 1967 the TV gaming apparatus referred to in paragraph 146 hereof included a display apparatus which utilized a television signal format including horizontal synchronization signals, vertical synchronization signals and video signals and separating

them for use in generating a gaming display on a television screen.

150. The broadcast television receiver referred to in paragraph 148 hereof included a cathode ray tube display apparatus using a raster scan.

151. The TV gaming apparatus referred to in paragraph 146 hereof included circuitry for generating horizontal and vertical synchronization signals which could be separated in the associated television set for generating a raster scan on the face of a television picture tube screen.

153. The TV gaming apparatus referred to in paragraph 146 hereof included circuitry for detecting apparent coincidence between one player controlled movable symbol and another player controlled movable symbol and caused a background color change on the screen in response to such an apparent coincidence.

154. The TV gaming apparatus referred to in paragraph 146 hereof included circuitry for generating symbols which were in the form of rectangular spots.

155. The TV gaming apparatus referred to in paragraph 146 hereof included automatic circuitry for moving a displayed symbol about the screen not under the control of a player in conjunction with a manually held and operated rifle which had a light sensitive photocell

for detecting the simulated firing of a rifle at the lighted spot.

156. The TV gaming apparatus demonstrated by R. H. Baer at the demonstration referred to in paragraph 146 hereof was not abandoned, suppressed, or concealed by him or his employer Sanders Associates, Inc., but was used as the basis for developing further and additional circuits.

157. The circuit shown in plaintiffs' exhibit 65-119 was built, tested and satisfactorily completed prior to January 15, 1968.

158. The circuit of plaintiffs' exhibit 65-119 included circuitry for generating on a television receiver symbols representing two paddles and a ball and playing the game of ping-pong.

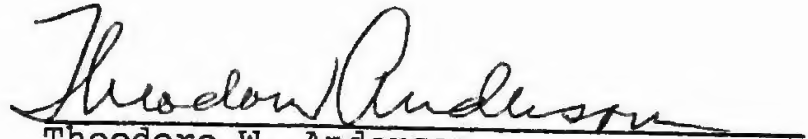
159. The circuit of plaintiffs' exhibit 65-119 included circuitry for moving a symbol representing a ball and circuitry for changing the direction of the ball when it was coincident with a symbol representing a paddle.

160. The circuit shown in plaintiffs' exhibit 65-197 was built, tested and satisfactorily completed prior to May 27, 1969.

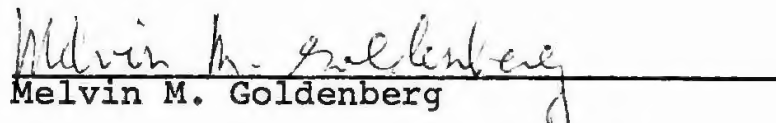
161. The circuit shown in plaintiffs' exhibit 65-197 included apparatus for generating symbols representing two paddles, a ball, and a fixed wall and playing the game of handball.

162. The circuit of plaintiffs' exhibit 65-197 included circuitry for moving a symbol representing a ball and circuitry for changing the direction of the ball when it was coincident with a symbol representing a fixed wall.

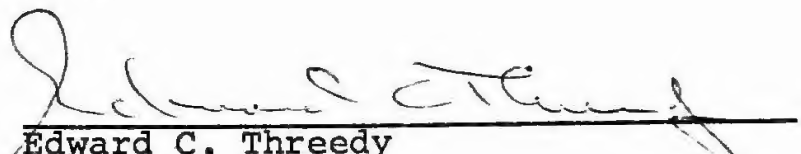
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